



Pollution Control Services Department

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To: Gary Miller
Remediation Project Manager
U.S. Environmental Protection Agency (EPA)

Subject: San Jacinto River Waste Pits Superfund Site – Review of the Draft Sediment and
Porewater Sampling and Analytical Plans

Dear Gary,

The Technical Review Team of Harris County (“Technical Review Team”) appreciates the opportunity to review and comment on the draft sediment and porewater sampling plans for the San Jacinto River Waste Pits Superfund Site (SJRWPS) located in Harris County, Texas. The following two documents were reviewed:

- Draft Addendum 3 to the Sediment Sampling and Analysis Plan (SAP) for additional sediment sampling within USEPA’s preliminary site perimeter, Anchor QEA and Integral Consulting, Inc., October 23, 2015.
- Draft Addendum 1 to the Sampling and Analysis Plan (SAP): TCRA Cap Porewater Assessment for additional assessment of porewater within the TCRA armored cap, Anchor QEA and Integral Consulting, Inc., October 23, 2015

Below are the Technical Review Team’s comments:

Comments on Sediment SAP Addendum 3:

1. Given that sediment variability often occurs at a fine spatial scale, we are not sanguine about the possibility of directly comparing sediment concentrations to those measured in 2010 on a station-by-station basis. It should be possible to perform some comparisons based on the populations of paired sample concentrations. The data quality objectives (DQOs) should address what a desirable and achievable spatial difference there is between sample locations in 2010 and 2015. Sample collection should include some measurements and replicates of fine-scale spatial variability to support any conclusion that observed differences are due to temporal changes rather than spatial and random variability.
2. Under the paragraph “Analytical Approach”, a statement is made that the laboratory offers higher resolution analysis. It is not clear if this refers to chromatographic separation or something else.
3. The sampling plan does not appear to indicate any standard analytical methods. For example, EPA method 1613B or SW 8290a are typically used for PCDD/Fs, and we strongly encourage that these are followed. Following a known standard method provides assurance that the results will be of known and acceptable quality. If a laboratory has developed their own methodology, the analytical procedures and individual chromatograms should be reviewed by a committee of independent experts. A description of the method should be included in the SAP.

4. The text and tables in the document indicate that grain size will be analyzed, but do not give the specific method. The attachments to SAP Addendum 3 include ALS Standard Operating Procedure for Particle Size Determination. The SOP includes 2 procedures based on ASTM D-422 Modified and 2 procedures based on Puget Sound Estuary Program procedures. We recommend using ASTM D-422 Expanded Version, which will provide the distribution of silt and clay size particles. The lab should be required to report water content or percent moisture for each sample.

Comments on Porewater SAP Addendum 1:

1. The proposed detection limits for PCDD/F congeners in sediment pore water are somewhat higher than the typical dissolved concentrations in surface water, as reported by Suarez *et al.* (2006)¹. Thus the occurrence of non-detects for these congeners via the proposed method will not provide certainty of a lack of a concentration gradient (and thus dissolved-phase flux) in the cap.
2. It is not clear if Figure 2 provides the number and locations of proposed pore water samples, or sampling performed in the past. In any case, please provide information on the number and types of samples to be collected, and provide a table of these samples, as was provided in Addendum 3.
3. While the deployment of sampling devices is described in some detail, the procedures and QA information for chemical analysis of the PDMS fibers are not provided. It is not clear why it is necessary to limit analysis to only three of the seventeen PCDD/F congeners that are typically quantified. We understand that the typical analytical methods do not address analysis of PCDD/F in fibers. That is why we believe it is necessary to provide more detail on the analytical and quality assurance procedures, so that the quality of the results can be evaluated.

Thank you for the opportunity to provide input on this important matter. We look forward to contributing to the Superfund process through future document reviews. Should you have questions about these comments, please contact Bob Allen at (713) 274-6416.

¹ Suarez, MP, HS Rifai, R Palachek, K Dean, and L Koenig. 2006. Distribution of polychlorinated dibenzo-p-dioxins and dibenzofurans in suspended sediments, dissolved phase and bottom sediment in the Houston Ship Channel. *Chemosphere*. **62**: 417–429.